ABSTRACT OF THE DISCLOSURE

A wide variety of Fiber Bragg writing devices comprising solid state lasers are provided. The solid state lasers emit moderate peak-power output beams which are suitable for efficient production of fiber Bragg gratings without causing embrittlement of the optical waveguide. These solid state lasers generate fourth harmonic output beams with wavelengths of approximately 240 nm, in order to match the primary absorption peak in the ultraviolet range for a typical optical waveguide. Some of these solid state lasers comprise a frequency-doubling crystal and a CLBO crystal used in a non-critically phase-matched orientation as a frequency-quadrupling crystal. In such lasers, both the frequency-doubling crystal and frequency-quadrupling crystal are preferably engineered to minimize or eliminate beam "walkoff."

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